

REMARKS

Claims 1-7 and 9-23 are pending, with claims 9-12 being withdrawn from consideration. By this Amendment, claims 1, 3 and 16 are amended. No new matter is added.

In response to the January 28, 2005 Decision on Appeal, Applicants amend independent claims 1 and 16 to clarify distinctions made in Applicants' Brief on Appeal and Reply Brief arguments as well as arguments made during the December 8, 2004 Oral Hearing. Additionally, claim 3 is amended to make a clarifying grammatical change. Support for the amendments to claims 1 and 16 is found, for example, in Applicants' Fig. 1 and the specification at page 2, line 18 to page 3, line 12. No new matter is added.

In the Decision on Appeal, the Board affirms the rejection of claims 1-5, 7, and 13-19 under 35 U.S.C. §103(a) over Van Vliet in view of Kobiella, Romanek and Saito and the rejection of claims 6 and 19-23 under §103(a) over Van Vliet in view of Kobiella, Romanek and Saito, further in view of Hoechst and Foglia. These rejections are now respectfully traversed in view of the foregoing amendments.

As pointed out in Applicants' Appeal Brief and in its Oral Hearing arguments, Applicants' specification is directed to a two-dimensional grid of strips that is spatially bonded at zones of overlap. These two-dimensional grids are subjected to loading and in the past have experienced early rupture failure at the point of bonded overlap. Prior bonding, such as that used in applied Van Vliet, bonded the entire overlap zone. Because these strips have higher tensile strength in their longitudinal direction, when one of the strips was loaded with a longitudinal tensile force, splits in a transverse strap often occurred at the point of overlap because the transverse strip was weaker in this direction. However, once this split occurred in the transverse strip, forces from the split acted on the loaded longitudinal strip, which caused premature rupture of the longitudinal strip. Thus, the weakness in the

transverse direction caused a split that could be transferred from the transverse strip to the longitudinal strip through the bonded zone of overlap.

Applicants have not only recognized this problem of premature rupture, but have isolated the source of the problem and developed a specific solution to prevent such early rupture. A solution includes providing the at least one zone of overlap with at least two spatially separated bonding points or lines that lie in a specific orientation. These spatially separated bonding points or lines (3) define an area of separation between adjacent bonding points, as shown in Fig. 1, that have no bonding. The area of separation extends transverse to an applied longitudinal tensile force applied to the longitudinal strip (2) (Fig. 1). If a split occurs in the transverse strip (1) due to the tensile loading and the strip weakness in this direction, the split will occur in the area of separation. However, because there is no bonding at this area of separation, forces from the split will not be transferred to the longitudinal strip because there is no bonding at this area of separation (Applicants' page 2, line 18 to page 3, line 12). As a result, Applicants provision of spatial bonding points enables bonding of the longitudinal and transverse strips together, while defining an area of separation oriented to contain and isolate any splits in the transverse strip and prevent transfer from the transverse strip to the loaded longitudinal strip. This allows the two-dimensional grid to be subjected to tensile loading while avoiding early rupture.

As pointed out previously, Van Vliet fails to identify the cause of early rupture and does not teach or suggest the claimed solution of spatially separated bonding points or lines that are oriented to have an area of separation that extends transverse to the longitudinal strip. To the contrary, Van Vliet in all embodiments consistently teaches an advantage to bonding the entire area of overlap (for both single strips or two-dimensional grids of strips).

Kobiella fails to overcome the deficiencies of Van Vliet. Kobiella is only concerned with a strap bonded to itself. Because of this, Kobiella was not concerned with problems

faced by two dimensional grids that are weak in a transverse direction of the strip and in particular, not faced with problems of transverse splitting. Instead, Kobiella was concerned with bonding techniques for use with unconventionally thin and wide straps that may otherwise result in defective bonding if an entire zone of overlap was bonded.

Based on these teachings, there is no motivation to combine references and even if combined, the combination fails to teach or suggest each and every feature of independent claims 1 and 16 as amended. For example, because Van Vliet is a conventional strap (one that is not unconventionally thin), one of ordinary skill would have recognized that it would not experience the problems faced by Kobiella. In fact, even Kobiella recognizes this fact and limits its applicability to unconventionally thin strips that could not be bonded at the entire overlap region as conventionally done without severely degrading the weld. Thus, one of ordinary skill in the art would not have had a reasonable expectation that the alleged modification would improve Van Vliet's grid or solve any problem faced by Van Vliet. The only source of motivation from Kobiella (advantages to use in an unconventionally thin and wide film) is inapplicable to Van Vliet.

Applicants also disagree with the position taken by the Board and the Examiner that Kobiella teaches an improvement in strength as a motivating factor. Rather, as repeatedly argued, one of ordinary skill would instead have recognized that, when read as a whole, the Kobiella teachings suggest that this bond would be inferior to Van Vliet, except to solve the problem faced when using an unconventionally thin strap (which is not present in Van Vliet). That is, one of ordinary skill would not have interpreted the phrase "at least about 75%" to have an unlimited upper limit as alleged. Rather, as a practical matter, one of ordinary skill in the art would have read the Kobiella reference as a whole and gathered that it can possibly support at least a 75% strength argument, and may achieve more. However, one understanding Van Vliet would have similarly recognized that Van Vliet is directed to a two-

dimensional grid and achieves at least 85% strength as previously argued, and maybe more. One of ordinary skill in the art would have reasonably compared the two teachings and concluded that Van Vliet supports the higher guaranteed strength and is specifically directed to problems faced by a two-dimensional grid of strips. From this, one of ordinary skill in the art would have found no plausible motivation for the alleged substitution and would not have had a reasonable expectation of success absent impermissible hindsight consideration of Applicants' specification.

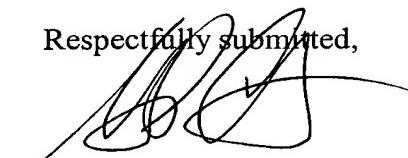
Furthermore, because Kobiella fails to appreciate the problems faced with a two-dimensional grid, there is no recognition by Kobiella that orientation of the bonding points and area of separation have any criticality. Accordingly, there is no express teaching in Kobiella to orient the bonding points or areas of separation as now clarified to prevent transfer of split forces from a transverse strip to the longitudinal strip. Thus, not only would there have been no motivation to substitute the entire bonding of Van Vliet for partial bonding, but also no motivation to specifically orient the bonding points or lines to define areas of separation that are oriented to extend in the transverse direction as claimed to prevent transfer of split forces. This is particularly the case where neither reference appreciates the problem with early rupture or isolates the cause of the problem. Because of this, Applicants solution would not have been obvious.

The additional secondary references fail to overcome the deficiencies of Van Vliet and Kobiella with respect to independent claims 1 and 16. Accordingly, independent claims 1 and 16 and claims dependent therefrom define over the applied art. Withdrawal of the outstanding rejections is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-7 and 13-23 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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